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TITLE: ④ Heat transfer on surfaces with long longitudinal fins

SOURCE: ⑦ Polska Akademia Nauk. Instytut Maszyn Przepływowych.
Prace. no.10. 1962. 45-56

TEXT: It is noted that existing methods of calculating heat transfer at finned surfaces cannot be regarded as accurate in the case of long fins, since they do not take into account the change in the coolant temperature along the length of the fins and the conduction of heat in the fins in the longitudinal direction. Theoretical analysis is now reported of this phenomenon in which the above effects are taken into account. Explicit formulae are derived for fins of rectangular, triangular and parabolic cross section. In each case the solution of the problem is reduced to the solution of an ordinary second order differential equation with variable coefficients. There are 5 figures.